

What is claimed is:

1 1. A method for driving an electro-luminescence display panel having electro-

2 luminescence cells and data electrode lines and scanning electrode lines intersecting each other

3 at a predetermined distance, each of the electro-luminescence cells being formed at the

4 intersections thereof, comprising the step of:

5 applying a booting current to each of the data electrode lines at the beginning of the next
6 horizontal drive time period ,

7 wherein the booting current:

8 corresponds to a magnitude change of a display data signal in the next horizontal
9 drive time period with respect to a display data signal in the current horizontal drive time
10 period;

11 has instantaneous values which are kept constant; and

12 has an application time amount that for the booting current is proportional to a
13 magnitude change of each display data signal in the next horizontal drive time period
14 with respect to the display data signal in the current horizontal drive time period.

1 2. The method of claim 1, wherein the booting current is applied in a forward

2 direction with respect to the EL cells when the magnitude of the display data signal in the next

3 horizontal drive time period is larger than that of the display data signal in the current horizontal

4 drive time period, the booting current is applied in a forward direction with respect to the EL

5 cells, and

6 wherein the booting current is applied in a reverse direction with respect to the EL cells,
7 when the magnitude of the display data signal in the next horizontal drive time period is smaller
8 than that of the display data signal in the current horizontal drive time period.

1 3. The method of claim 2, wherein no booting current is applied when the
2 magnitudes of the display data signals in the current and next horizontal drive time periods are
3 equal to each other.

1 4. An apparatus for driving an electro-luminescence display panel comprising:
2 data electrode lines and scanning electrode lines intersecting each other at predetermined
3 distances; and
4 a plurality of electro-luminescence cells each of the plurality of electro-luminescence cell
5 being formed at the intersections thereof, wherein:
6 a booting current is applied to each of the data electrode lines at the beginning of the next
7 horizontal drive time period;
8 the booting current corresponds to a magnitude change of a display data signal in the next
9 horizontal drive time period with respect to a display data signal in the current horizontal drive
10 time period;
11 instantaneous values of the booting currents are kept constant; and
12 the application time for the booting current is proportional to a magnitude change of each
13 display data signal in the next horizontal drive time period with respect to the display data signal
14 in the current horizontal drive time period.

1 5. The apparatus of claim 4, comprising:

2 a data driving unit connected to signal-input terminals of the data electrode lines for
3 producing data current signals, corresponding to display data signals, in response to input
4 switching control signals in order to apply the data current signals to the data electrode lines,
5 respectively, and applying the booting currents to the data electrode lines at the beginning of
6 each horizontal drive time period, respectively;

7 a scanning driving unit connected to signal-input terminals of the scanning electrode lines
8 for sequentially applying scanning driving signals in response to input switching control signals
9 to the scanning electrode lines, respectively; and

10 a controller that inputs the display data signals and the switching control signals to the
11 data driving unit and inputs the switching control signals to the scanning driving unit,
12 respectively.

1 6. The apparatus of claim 5, wherein the data driving unit comprises:

2 a latch circuit that periodically stores the display data signals received from the controller
3 and periodically outputs display data signals in the current and next horizontal drive time
4 periods;

5 a plurality of digital-to-analog converters that convert the display data signals in the
6 current horizontal drive time period received from the latch circuit into data current signals,
7 respectively; and

8 an output circuit that compares the display data signals in the current and next horizontal
9 drive time periods received from the latch circuit with each other, applies the booting currents to
10 the data electrode lines, respectively, and applies the data current signals received from the
11 plurality of digital-to-analog converters to the data electrode lines, respectively.

1 7. The apparatus of claim 6, wherein the latch circuit comprises:

2 a plurality of (n+1)-data registers that output display data signals stored therein according

3 to horizontal synchronization signal and store the display data signals received from the

4 controller; and

5 a plurality of n-data latches that output display data signals stored therein in response to

6 the horizontal synchronization signal and store the display data signals received from the

7 plurality of (n+1)-data registers, respectively.

1 8. The apparatus of claim 6, wherein the output circuit comprises:

2 a plurality of digital comparators that compare the display data signals in the current and

3 next horizontal drive time periods received from the latch circuit with each other, and generate

4 signals indicating a magnitude difference between the display data signals in the current and next

5 horizontal drive time periods and signals corresponding to the magnitude difference;

6 a plurality of current sources that output booting currents having constant instantaneous

7 values and varying polarities depending on the signals indicating the magnitude change;

8 a plurality of booting-current switches that switch booting currents output from the

9 plurality of current sources, respectively;

10 a plurality of timing signal generators that control timing for operation of the plurality of

11 booting-current switches according to the signals indicating the amount of change received from

12 the plurality of digital comparators, respectively; and

13 a plurality of output current switches that alternately select the output signals of the

14 plurality of booting-current switches or output signals of the plurality of digital-to-analog

15 converters and apply the selected signals to the data electrode lines, respectively.